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**From:** Nesci, Kimberly [Nesci.Kimberly@epa.gov]  
**Sent:** 4/1/2021 7:25:25 PM  
**To:** Dawson, Jeffrey [Dawson.Jeff@epa.gov]  
**Subject:** FW: ACRC - EPA PFAS Testing Call Notes - 3/3/2021

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**From:** Nesci, Kimberly  
**Sent:** Monday, March 22, 2021 3:48 PM  
**To:** Widawsky, David <Widawsky.David@epa.gov>  
**Subject:** FW: ACRC - EPA PFAS Testing Call Notes - 3/3/2021

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**From:** Mark Hudson <mhudson@acrecycle.org>  
**Sent:** Friday, March 5, 2021 5:04 PM  
**To:** Nesci, Kimberly <Nesci.Kimberly@epa.gov>  
**Cc:** Messina, Edward <Messina.Edward@epa.gov>; Nguyen, Thuy <Nguyen.Thuy@epa.gov>  
**Subject:** FW: ACRC - EPA PFAS Testing Call Notes - 3/3/2021

Hello Kimberly – here are our consolidated notes. I think they are consistent with your report, specifically Thuy's memorandum. If permissible, we would welcome your review before we share with our regular members.

Thuy – thank you for your memorandum. For a complicated subject, it is VERY well done and easy for non-chemists to understand! I'm a chemical engineer and even I understood it – LOL!! 😊

Have a nice weekend all –

Mark

**J. Mark Hudson**  
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**From:** Mark Hudson <mhudson@acrecycle.org>  
**Sent:** Friday, March 5, 2021 4:58 PM  
**To:** Mark Hudson <mhudson@acrecycle.org>  
**Subject:** RE: ACRC - EPA PFAS Testing Call Notes - 3/3/2021

**CONSOLIDATED NOTES (From Hudson plus ACRC member notes) - CALL WITH EPA REGARDING EPA TESTING OF Ag CONTAINERS FOR PFAS:**

Questions to ask:

- Were clean non-fluorinated containers tested and compared to clean fluorinated containers? Yes
- Before AND after contact with relevant product(s)? Yes
- Were comparisons made after contact with VARIOUS products / formulation types? Or only with Anvil? Only Anvil.

- Was testing conducted before AND after rinsing the container? Rinsate was used to rinse the containers once for set time period. Then tested rinsate.
- Was PFAS found in the product (Anvil) or only on the container plastic? In the product AND in rinsate used to rinse the empty used containers.
- Any work being done to understand the mechanism(s) generating PFAS? ....or only testing of the product / containers for presence of PFAS? Yes, this was described in some detail by Thuy. Should be released on Friday.
- Can Kimberly provide in writing some of the summary points that she made? ....or will Friday information include this? Most is either on website or will be released Friday.

#### **NOTES TAKEN:**

- Kimberly Nesci (Director, Biological and Economic Analysis Division - BEAD) opened the discussion with some background info about the PEER testing and results which triggered EPA's investigation
- Thuy Nguyen (Chief, Analytical Chemistry Branch, BEAD) also shared several times regarding her testing and analytical work.
- Ed Mussina also was on the call and commented several times. He indicated there will be a further press release update on this subject likely on Friday, which will contain actual analytical results. He also indicated they are happy to receive and answer further questions directly to their staff (Kimberly, Thuy, Ed, etc).
- Ed Mussina also specifically referenced the ACRC program and EPA's willingness and desire to help ACRC and its members understand this issue to the extent that it can help our program remain successful.
- Ed also acknowledged the importance of fluorination as a tool to our industry.
- EPA has ONLY tested empty unused containers, containers that previously contained Anvil (product from Clarke) AND Anvil product from Clarke.
- Tested both fluorinated and non-fluorinated containers.
- Most broadly, they found non-fluorinated containers had much lower levels of PFAS found....near the level of detection.
- Found PFAS molecules ranging from C4 to C11 (carbon atoms).
- Their test method is posted on their website and involved testing of rinsate. However, it was modified to test a solvent rinsate, not a water rinsate.
- Used a methanol solvent rinse.
- They did not do any environmental / ground water sample testing....nothing similar to PEER testing.
- EPA took significant steps during their testing to account for lab equipment related PFAS "noise" .....including re-plumbing of equipment.
- Bought some containers on the open market to support their testing efforts. They are not sure what levels of fluorination they contain or whether pre/post-mold fluorination.
- However, containers were also supplied by Clarke and were understood to be level 3 fluorination and post-mold.
- Clarke supplied product off of their production line in glass bottles for testing. This was compared to product stored in fluorinated containers (drum) for 6-months by Clarke.
  - Found PFAS in the product stored in fluorinated containers
  - Also found lesser trace amounts of PFAS in the production line material. Described as "cleaner".
- They also tested containers originally containing product (Anvil) after rinsing. Rinsing of containers involved soap/water rinse, then water alone, then methanol rinse. Need to clarify findings here?
- They tested container(s) on the inside and on the outside. EPA stated when testing the inside and outside of the fluorinated containers (post mold), new containers had the same levels of PFAS (inside and out), however, when they tested the inside and outside of container(s) that had previously contained product, there were more PFAS levels detected on the outside of the container than the inside. Meaning the product carried/migrated/leached PFAS from the inside walls of plastic container into the product.
- EPA has NOT established any "baseline" levels of PFAS in ag products or containers that producers can use as a benchmark or limit.
- They are working under the hypothesis that PFAS is leached out of Fluorinated containers and that they have a "plausible chemical pathway for this to occur".
- Thuy described her plausible mechanism / pathway for this formation of PFAS to occur. This will also be released on Friday.
- She also described what she had learned from the fluorination company (presumed to be Ex. 6 Personal Privacy (PP)).

- They commented about acid buildup due to the presence of oxygen in the fluorination process.
- EPA plans to look for and test other containers....ideally of varying fluorination levels. Kimberly solicited those on the call for input on obtaining such containers and what they should test.
- They also plan to look at various solvents, time and temperature to see what affect they have on “leaching” and / or PFAS formation.
- They are only planning to test containers in the future, no pesticide product testing.
- They are working with USDA, FDA, and DOT and stated “there is no reason to believe it’s a pesticide only” issue.
- Mike Jones strongly recommended EPA to test various fluorination levels and both pre/post-mold fluorination. Kimberly was receptive and Mike offered to supply her the necessary information to facilitate their tests.
- Suggest reviewing what EPA releases on Friday and then contacting Kimberly for any clarification on what they shared that is not released on Friday.

**J. Mark Hudson**

Executive Director

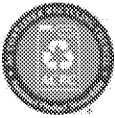
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